THE

Use of Ergot in Obstetrics.

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THE USE OF ERGOT IN OBSTETRICS.

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Mr. President and Gentlemen of the Faculty:

Instead of undertaking to give a review of the present condition and progress of Gynecology and Obstetrics, I have thought that it would be more profitable to take up some special subject and discuss it in the light of practical experience. It is not so much the *theory* as the *practice* of medicine that we need at this day.

I have therefore determined to devote a little time to the consideration of modern criticism upon the use of ergot in obstetrics, and to test that criticism by clinical facts that have come under my personal observation.

One of the most remarkable facts in the history of medicine, is the tendency of medical men to vibrate between the most extreme views in therapeutics and pathology. Men much younger than I can remember the extremes to which medical opinion and practice have gone on the subject of blood-letting—or upon the use of mercury in the treatment of syphilis; and upon many other subjects that readily suggest themselves to the well-informed physician.

None of these fluctuations are more marked than the change now going on in reference to the use of ergot in obstetrics. Many of the most prominent obstetricians at home and abroad do not hesitate to denounce its use under all circumstances in obstetrical practice.

At the meeting of the "American Gynecological Society," held in Philadelphia last September, Dr. Engelmann, of St. Louis, read a paper on Ergot, in which he used the following emphatic language: "He considered the use of ergot entirely unnecessary in the pregnant woman." "The accidents which may result from ergot in labor are: rupture of the uterus, laceration of the cervix, laceration of the perineum, and other injuries to the utero-vaginal tract, and injuries to the child." "He would limit its use to the non-pregnant womb." "It should not be used in abortion." . . . After several gentlemen had spoken on the subject of Dr. Engelmann's paper, Dr. Albert H. Smith, of Philadelphia, said: "I agree entirely with Dr. Engelmann. I believe that erget is never needed." . . . "In the second stage of labor we never have a right to give ergot, for we have in the forceps a much better method of terminating labor. In the third stage, while its use may not be so reprehensible, there are very few cases in which it can be useful."

Dr. Engelmann has just published in the *Medical News* for April 5th, 1884, an account of "two cases of rupture of the uterus," in which he ascribes both accidents to the use of ergot.

Dr. Engelmann premises his description of these cases with some general remarks on the use of ergot, in which he repeats the views expressed in his paper before the Gynecological Society, and further says, that "ergot does so much more harm than good, and is so potent for good or evil, that I would condemn its use in obstetric practice altogether. Parturient women would be better off if ergot was stricken from the pharmacopœia; it is never necessary, and when really needed cannot be relied upon for immediate action; and other means must be resorted to." . . . These are strong, emphatic words, and they are sustained by many men of distinction and authority in the medical profession.

When we look into the literature on the subject of ergot we find a terrible history of injury and death. A history that I cannot understand or explain when I judge it in the light of my own personal experience.

It requires some courage to place that experience against such an array of authority. When the Apostles Peter and John were

"commanded not to speak any more in the name of Jesus," they replied: "We cannot but speak the things which we have seen and heard." In other words they felt compelled to assert their convictions and their experience, even in the face of such commanding authority as that of the Sanhedrim. So, in the use of ergot, my own experience has led me to convictions so strong that I cannot abandon them, even in the face of such authority as confronts me in the statements of the distinguished practitioners already quoted, and in the statistics which I will hereafter quote from various authors.

Stillé, in common with all who write on the subject, speaks of the influence of ergot upon the mother and also upon the child. The authors whom he quotes, as well as Drs. Engelmann and Smith, whom I have quoted, represent "rupture of the uterus, lacerations of the cervix uteri, rupture of the perinum, etc., as common results of the administration of ergot. So common that Drs. Engelmann and Smith think that it ought to be banished from the pharmacopœia!

It is unfortunately true that any remedy that is powerful for good when properly used, becomes equally powerful for evil when used ignorantly and improperly. This is certainly true of ergot. If we examine the cases that have resulted disastrously, we will generally find that the ergot has been ignorantly and improperly administered.

Take for example the second case quoted by Dr. Engelmann. I omit the first case given by him because there is such lack of careful description, that it is by no means certain that the rupture of the uterus was produced by the ergot. In the second, there can be no doubt as to the cause of the rupture. Nor can the result surprise us in the least, when we look at the doctor's description.

He was called in consultation after the rupture had taken place, and gives the following history: He found that the lady was under the care of a midwife, and was four days in labor, with a *shoulder presentation*. On the third day a physician was called in, who found "the os dilated, but the parts rigid and dry, and the arm down" in the vagina. He at once ordered ergot, and

in about thirty minutes gave three doses of a drachm each. He then endeavored to turn and failed. A second physician was sent for, who also failed to deliver. The patient was then left "*with instructions to refill the bottle of ergot and continue its use.*"

On the morning of the fourth day, Dr. Engelmann was sent for and found the condition already described, with the addition of a ruptured uterus! After "disarticulation and eventration" the doctor removed the child, and the mother died two hours thereafter!

Can anyone wonder that ergot produced rupture under such circumstances? Or can anyone fail to read the lesson taught by such a case?

Let us now suppose that the presentation is right, but that the mother had a deformed pelvis, which prevents the progress of the labor until the mother is exhausted by ineffectual effort, and the pains cease by reason of that exhaustion. Under these conditions ergot is given to revive the pains, and the patient is left to its relentless influence. Could anyone be surprised if disaster would befall both mother and child? Or could anyone fail to understand the lesson taught by such circumstances?

Let us again suppose that there is neither deformity of the pelvis nor malposition of the child, but that the "membranes" are ruptured, and "the parts are rigid and dry," and the progress of the labor is so slow as to exhaust the patience of mother and doctor.

Ergot is given to "hurry up the labor," but the labor persists in being tedious, and will not progress, although the pains have been "aroused and strengthened" by the medicine.

Can anyone be surprised if injury befalls the child and even the mother?

But what is the lesson taught under such circumstances?

In all these cases we see at once that the ergot has been given ignorantly and improperly, and disaster has been the inevitable result.

But does it follow from these manifest mistakes that there are no conditions in which ergot can be useful? Or does it follow

that ergot is equally destructive under all circumstances?

Let us now examine Stillé's statistics as to the effects of ergot *upon the child*, as given in vol. 2, page 691, of his work: "Therapeutics and Materia Medica." I quote verbatim: "Prof. Busch, of Berlin, administered it in 175 cases on account of weak labor pains, after the os uteri was well dilated. 177 children were born, of whom 17 were dead, and 18 in a state of asphyxia—viz: about 1 in 10.

Mr. Chatto refers to 420 cases of labor, in 80 of which ergot was exhibited.

422 children were born, of whom 31 were dead. 10 stillbirths occurred among the 80 cases treated by ergot, and 21 among the remaining 340 cases. So that the proportion of deaths in the former class was 1 in 8, but in the latter 1 in 17.

In the report of Drs. McClintock and Hardy we find that out of 259 tedious and difficult labors, 173 deliveries took place *without any instrumental assistance.* Of this number 30 got ergot to overcome inertia in the second stage of labor, and only 10 out of the 30 were born alive. In other words, the proportion of deaths attributed to this agent was *one in one and a half!*

Dr. R. V. West, in defence of ergot, has published an abstract of 69 cases of labor in which it was administered.

9 children were stillborn, or rather more than 1 in 8. "These statistics" (says Stille) "leave no doubt that ergot administered before the close of labor has proved very destructive to the life of the child."

These are certainly appalling statements! An average of *one death in seven births!*

Is this danger *inherent*, or does it depend upon the conditions under which the medicine is employed? My own experience justifies me in saying quite positively that the danger depends largely upon the conditions under which it is employed.

Permit me to refer to that experience. In 1874 I had the honor of reading a paper before this Faculty, upon the hypodermic use of ergot in post-partum hemorrhage. The remarkably prompt and satisfactory results obtained in the cases then reported, induced me to use ergot in most of the cases thereafter coming

under my care, with a view of preventing post-partum hemorrhage. The results vindicated the wisdom of that determination. *Since that time* (1874) *I have never had a case of post-partum hemorrhage to deal with.*

Since 1875, I have kept a record of 210 cases of confinement in which ergot has been given. In 70 of these cases I used the forceps, and in nearly all of them I administered chloroform. In these 210 cases of confinement, 215 children were born, with the following results, viz.:

In 1875,	41 cases.	No mother died and no child.	
" 1876,	22 "	" " " " " "	
" 1877,	15 "	3 mothers died and one child.	
" 1878,	18 "	No mother " " " "	(twin.)
" 1879,	21 "	" " " " no "	
" 1880,	25 "	" " " " one child.	
" 1881,	21 "	1 " " " " "	
" 1882,	22 "	1 " " " two children.	
" 1883,	15 "	No " " " " "	
" 1884,	10 "	" " " " no child.	

Making 5 mothers in 210, viz., 1 in 42.

And eight children in 215, viz., 1 " 27.

Of the mothers, 3 died from puerperal convulsions, 1 from septicæmia, and one from exhaustion, before we were able to deliver the baby.

Of the children, 2 were twins, and died from inherent debility. 1 was stillborn, the mother dying of uremic coma, and unconscious when I reached her; 1, a foot presentation, which died before I reached the case; 4 were children of immense size, and died by reason of the delay in effecting the delivery. 1 of these 4 evidently perished from an enormous hemorrhage that occurred during the labor, produced by the mother's leaping into her bed when she saw me drive up to her house. The suddenness of her motion detached the placenta and led to the terrific hemorrhage referred to, and which I reported to the Faculty in 1880.

The remaining 3 children were so large, and so out of proportion to the pelvic capacity of the mothers, that their death seemed inevitable. Although ergot was administered in all these

cases to guard against hemorrhage, it seems to me fair to conclude that it had nothing to do with the death of any of them. Whether this be admitted or not, I think all must agree that the facts herein related afford a very striking contrast with the statistics quoted by Prof. Stille.

I think, furthermore, that my experience, as here presented, shows very clearly that the danger in the uses of ergot is not *inherent, or universal*, but that it results from the conditions under which it is administered.

The second case given by Dr. Engelmann clearly shows that the conditions under which the ergot was given were so unfortunate as to render disaster *inevitable.*

Could any condition be more unfavorable than a shoulder presentation that was permitted to remain unassisted for *three days!* From this case, and many others that might be quoted, it is indisputably evident that ergot should *never be given in a shoulder presentation, before that presentation is corrected.*

Upon general principles it is equally clear that it should never be given *in any malposition of the child*, unless it is immediately followed with active intervention to terminate the labor.

It should never be given in the *first stage of labor*, unless the os uteri and the vagina are fully dilated, or are *easily dilatable.*

It should never be given in *any stage of labor* where the head of the child is too large for the pelvic capacity of the mother, unless the forceps are to be used immediately.

On the the other hand, *it may be given without hesitation* in the *first stage* of labor after the os uteri is dilated or dilatable, provided there is no disproportion between the child and the pelvis, or no malposition.

It may be given in *the second stage*, with the same restrictions, provided the vagina and the perineum are distensible and elastic.

It may be given in *any stage of labor*, under the restrictions given in the two previous clauses, provided the "pains" are feeble and ineffectual, in order to shorten the duration of the labor.

In *every case* in which ergot has been given, when we find that the head ceases to descend, or when it fails to recede in the interval between the pains, it becomes absolutely necessary to apply

the forceps and terminate the labor. It was the failure to observe this rule that led to the frightful proportion of deaths reported by Drs. McClintock and Hardy, where they gave ergot in 30 cases of "tedious and difficult labors," and left them to terminate themselves "*without instrumental assistance*," and where they lost 20 *out of* 30 *cases!*

Under these circumstances delay is always dangerous, either to the child or to the mother, or to both child and mother. This delay is the fruitful source of danger to the child, and also to the soft parts of the mother, leading to fistula either of the bladder or rectum.

I have never had a case of recto-vaginal, or vesico-vaginal fistula occurring in any of my patients, and I attribute this immunity to the adoption of the rule here laid down.

Believing, as fully as I do, that the great function of the Doctor is to relieve pain and to mitigate suffering, I feel that it is the absolute duty of the obstetrician to do what he can to relieve the pain of child-birth, so far as he can with safety to the mother. Therefore, for many years, it has been my custom to give chloroform in nearly every case of labor that I attend.

It is my conviction that chloroform not only destroys the pain, but that it materially shortens the duration of labor, and thus confers a great benefit upon the woman, and facilitates her convalescence, by preserving her from the exhaustion that always results from long continued pain.

Inasmuch as many think that chloroform tends to weaken the pains, and also to expose the patient to hemorrhage, I have determined that it is wise to take the benefit of the doubt, and to give ergot before I administer chloroform. This maintains the strength of the pains, and at the same time protects the patient from the risk of hemorrhage. Therefore, as I give chloroform to nearly every patient that I attend in labor, so likewise I give ergot in the same proportion, unless it is contra-indicated by some of the conditions already referred to, such as mal-position of the child; undue size of the child; deformity of the mother; or rigidity of her cervix, vagina or perineum, etc.

Then again I give ergot to maintain uterine contraction after the termination of labor, and thus guard against post-partum hemorrhage, and against septic absorption.

Since I adopted this rule, that is since 1875, I have not had a case of post-partum hemorrhage, and I have only had *one case of septicæmia.*

Mr. President, I have thus conscientiously given my experience, which extends over a period of many years, and I have found it so eminently satisfactory that I am unwilling to lend too ready an ear to the denunciations that are now being hurled against the use of ergot in obstetrics.

I agree with the objectors that ergot is a powerful agent for good or for evil, according as it is used wisely or recklessly, and therefore I cordially unite with them in raising a warning voice against its abuse, and have endeavored to contribute somewhat to confine its administration within the bounds of wisdom and of safety.

DISCUSSION.

Dr. Opie, in opening the discussion, spoke of the difficulty of discovering by touch or other exploration the relation between the head of the child and the capacity of the straits. Should delay in relief by forceps occur after the administration of ergot, danger will ensue. The action of ergot is counteracted by full anæsthesia, so that we run the risk of hemorrhage before it acts when we give chloroform. Ergot does not act for about forty minutes.

Dr. Wilson said that he never gives ergot before delivery, except when certain that the child will be delivered in a few moments. It is impossible to tell whether delivery is possible; there may be unexpected difficulty. After labor, he uses it to prevent septicæmia; but, in his hands, it is not to be depended on for post-partum hemorrhage.

Dr. John Morris agreed fully with Dr. Williams. In two thousand obstetric cases he had only seen two deaths that could be traced to the use of ergot.

Dr. Branham drew attention to the fact that ergot causes danger to the child because it produces, not the normal contractions of the uterus, but tonic contractions. It is this faculty that makes it useful in the prevention of septicæmia and post-partum hemorrhage.

Dr. Williams, in reply, said that he had guarded the point of the danger of ergot in cases in which there was a disproportion between the head of the child and the size of the pelvis. In regard to the unexpected difficulties that might cause dangerous delay in the delivery of the child by the forceps after ergot had been administered, he would refer to his own cases: out of seventy deliveries by forceps, there were only three cases in which such delay could have caused death. In one case, only Cæsarean section could have saved the child. It was large, and the sutures of the cranium were firmly united. An examination of the causes of death in the remaining two instances convinced him that ergot had not caused it. By administering ergot before delivery, time is given for its full physiological effect to take place by the time the child is expelled. He did not think the entire absence of post-partum hemorrhage in his cases since he adopted his present practice (in 1874–75) could have been accidental.